

# Development of a social inclusion index to capture subjective and objective life domains (Phase II): psychometric development study

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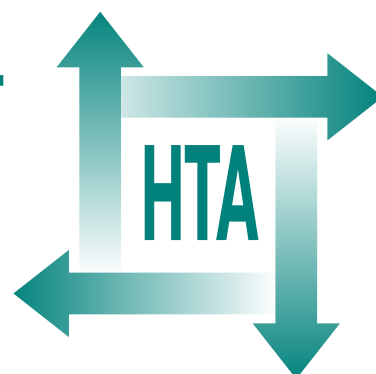
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## Executive summary

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# Executive summary

## Background

This project is the second of a two-phase study involving the development of a social inclusion index to capture subjective and objective life domains. A review of the literature found that there was a considerable amount of work on measuring social capital, but only two studies on the measurement of social inclusion. These measures had not been conclusively tested in terms of psychometrics, acceptability, construct validity or responsiveness. There was a relative dearth of research looking at the relationship between structural and subjective indicators of inclusion compared with the volume of publications and level of interest in the relationship between these variables and health status. There was a need, therefore, for an established measure of social inclusion, for use in the general population or community mental health service settings.

## Objectives

This phase therefore focuses on the further development and testing of a comprehensive social inclusion index that is suitable for use in both general population and mental health services research and routine outcomes measurement. The study objectives are to produce a robust measure of social inclusion that:

- is multidimensional and captures multiple life domains
- incorporates objective and subjective indicators of inclusion
- has sound psychometric properties, including responsiveness
- facilitates benchmark comparisons with normative general population and mental health samples, including common mental disorder and severe mental illness (SMI) groups
- can be used appropriately with people with mental health problems receiving, and not receiving, support from mental health services
- can be used across a range of community service settings.

## Methods

This phase of the study consisted of four core components:

- *Component 1* involved the development and pre-testing of a draft instrument to check appropriateness and acceptability. The life domains identified in the first phase were populated with questions drawn, wherever possible, from UK national data surveys and other normative data. Subjective items were included in each domain using either five- or seven-point scales. The draft instrument was pre-tested using cognitive appraisal and participant evaluation then pilot tested within the wider research centre and in a community sample.
- *Component 2* involved the modification of the draft instrument, based on evaluation and interviewer experience prior to application in a community survey and other settings to generate data for component 3. The community survey sampled five areas in England and Wales using addresses drawn at random from the postal address file ( $n = 252$ ). A further convenience sample of mental health service users (MHSUs) ( $n = 43$ ) also completed the modified instrument plus an evaluation form.

- *Component 3* involved data reduction and psychometric evaluation, to produce a short version of the instrument. Descriptive statistics were used to identify and remove items that might result in missing data or had little or no variance. Factor analysis, parallel analysis and Mokken scaling for polytomous items (MSP) response analysis were used to identify underlying themes of social inclusion, and questions that were most highly associated with these themes were retained. Psychometric evaluation assessed internal consistency, discriminant validity of the scales and items with the instrument. Internal consistency of scales was assessed using Cronbach's coefficient alpha. Discriminant validity was tested in subsamples of different mental health groups, selected on the basis of their response to the mental health section of the UK Short Form questionnaire-36 items or by virtue of belonging to a service user group for those recovering from SMI. There were three subgroups from the community survey: the mentally healthy community (MHC) sample, those with common mental disorders (CMDs) and the MHSU groups. A second MHSU group was selected from community mental health teams receiving services aimed at improving inclusion.
- *Component 4* involved final field testing in clinical settings and beta testing in other services of the short version of the instrument. Test-retest reliability was tested in two convenience samples of university students ( $n=119$ ). Responsiveness has been established to a limited extent and will continue to be tested in the sample of people receiving services aiming to improve their social inclusion.

## Results

The long Social and Community Opportunities Profile (SCOPE) consisted of objective questions about opportunities and participation, sourced, whenever possible, from national surveys (and using the same coding). The subjective ratings of Satisfaction with Opportunities (SatOpps) and subjective well-being (SWB) were measured on a seven-point 'delighted-terrible' scale. An overall subjective inclusion item was also measured on a delighted-terrible scale. The subjective rating of perceived opportunities (Perceived Opps) was measured on a five-point scale. Overall, the long SCOPE had 121 items including four demographic questions. Factor analysis showed that there were three major scales: (1) Perceived Opps, (2) SatOpps and (3) SWB. The subjective scales all showed internal consistency, with Cronbach's alpha scores of  $\geq 0.7$ . The objective items did not form scales (in either the factor analytic method or MSP procedures) and were considered as individual items in subsequent analyses.

The impact of mental health status was examined using one-way between-groups analysis of variance, with Tukey HSD (honestly significant difference) post hoc adjustments. The three SCOPE subscales all demonstrated good discriminant validity when comparing people with limiting long-term illness (LLTI) and those without, and in three mental health groups: MHC – a healthy community sample; CMD – a common mental disorder community sample; and MHSU – people with severe mental health problems. The MHC sample had significantly higher scores than those of the CMD and MHSU groups for the SWB and SatOpps scales. The Perceived Opps also differed significantly according to mental health status. The three mental health status groups also differed significantly in their average ratings on the single-item 'overall satisfaction with inclusion'. The MHC scores were significantly higher than those for the CMD and MHSU groups, and CMD scores were slightly, but not significantly, higher than MHSU scores. The discriminant validity of MSP scales was not as good as the scales from the factor analytic method.

The relationship between mental health status and the objective opportunity and participation items was examined using chi-squared tests or Fisher's exact probability test, and, again, showed good discriminant validity. The three mental health status groups differed significantly on 11 of the 14 objective opportunity items, and on 9 of the 13 participation items. The groups were

similar in terms of the frequency of family contact or social activity, and accommodation type, debt and qualification levels. In most respects, a higher proportion of the MHC group had opportunities to be socially included than the mentally unwell groups.

Construct validity was assessed by correlating the SCOPE scales, overall inclusion items and the objective opportunity and participation items with related measures of community participation and social capital. The SCOPE scales correlated more highly with each other than with the measures of participation and social capital. The objective indicators of opportunity and participation were also correlated significantly with the subjective scales. The participation measure was only moderately correlated with the three SCOPE scales and the overall inclusion rating, although the objective participation items correlated more highly. Social capital was associated more closely with the objective opportunity items and the Perceived Opps for inclusion scale than any of the other SCOPE scales, but still shared less than one-quarter of the variance, suggesting that the two concepts are related but not the same. These results and linear regression models that control for each concept confirmed that social inclusion is similar to, but not the same as, social capital and participation.

Acceptability was assessed by asking the MHSU group to complete evaluation forms after completing the SCOPE. Most (76%) found the domains relevant to their own lives. The main complaint was that the SCOPE was too long and took too much time to complete, which is to be expected, given that the data collection was to facilitate data reduction.

Items that had > 10% missing data or little or no variance, or which overlapped considerably ( $r > 0.7$ ) with other item(s) or which had low factor loadings across all domains were excluded on the basis that they added little to the measure or appeared not to be important components of social inclusion as conceptualised here. On the basis of these analyses, the SCOPE was reduced from 121 to 48 items.

The short SCOPE contained two subjective scales, SatOpps and Perceived Opps, plus objective opportunity and participation items and an overall inclusion rating; at this point SWB ratings were excluded in the interests of brevity and because such measures of life quality can stand alone from social inclusion. The short SCOPE scales retained reasonable internal consistency (between 0.60 and 0.75). Test–retest reliability on a group of students ( $n = 119$ ) demonstrated good stability over short periods of time, with all items highly correlated at both time points. Repeating the discriminant validity tests on the short version demonstrates good discriminant validity between the mental health groups and between people with and without self-reported LLTI. MSP was unable to create scales using the variables in the short version. Acceptability of the short version improved over the long version, with 90% of the sample describing the questions as relevant to them, and 93% feeling that the length was just right.

A second MHSU sample ( $n = 40$ ) completed a baseline SCOPE and 11 people completed a 3-month follow-up SCOPE. Data are continuing to be gathered from the remaining service users.

## Conclusions

A short and acceptable instrument with good psychometric properties has been produced in accordance with the protocol to measure subjective and objective aspects of social inclusion. Because the objective questions were taken from existing publicly available surveys, it is possible to compare clinical samples with the general population on the same question coded in the same way.

Further research is needed into sensitivity to change and responsiveness, and into versions for different cultures and in different patient groups. Recommendations for further research are outlined in the report. Some of the potential clinical and research applications are discussed in the SCOPE User Guide version 1.

## Suggestions for further research

To our knowledge, the SCOPE is one of very few reliable and valid measures of social inclusion by which to compare mentally unwell and general population groups.

Nevertheless, several research questions remain. The most important question that is being pursued by the research team is to what extent the SCOPE measure is responsive to changes in social inclusion over time, including those brought about by social and clinical interventions in mental health care.

Further testing in relation to other patient groups and larger samples of minority and disadvantaged groups are also required, including those with physical illnesses and disabilities, and specific mental health diagnostic groups.

It is also necessary to explore cultural ideas about the concept of inclusion, and the scope and mechanisms for transference of ideas about the measurement of social inclusion in order to establish how far this measure can travel.

The SCOPE can be used as a research tool in randomised controlled trials and other comparison studies of different social interventions aimed at assessing the clinical effectiveness and cost-effectiveness of that intervention. One important research question might focus on whether the recovery model of mental health care produces favourable outcomes compared with other models of care.

The SCOPE has potential for use as an operational outcome measure with which to assess routine outcomes. More specifically, it is likely that the SCOPE can be a useful tool in terms of measuring the effectiveness of health, social care and policy initiatives relating to personalisation, including self-directed support and personal budgets.

On a wider scale, there is potential for a social inclusion module to be incorporated into UK national surveys, particularly longitudinal and cohort studies, in order to assess the extent to which inclusion changes over time, both among the population as a whole and, more importantly, among disadvantaged groups within society.

Finally, in the interests of conceptual progress, we would suggest a study or studies that would involve applying standard measures of the several related concepts referred to in the background section of this report to a large population sample, across several localities (and countries), in order to examine whether or not latent analysis supports the discreteness of the various constructs. This would also involve multilevel modelling to encompass the issues of individual- and area-level measurement, as well as structural equation modelling to estimate causality between different components of inclusion and related constructs.

## Funding

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## Publication

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The research reported in this issue of the journal was commissioned by the National Coordinating Centre for Research Methodology (NCCRM), and was formally transferred to the HTA programme in April 2007 under the newly established NIHR Methodology Panel. The HTA programme project number is 06/91/16. The contractual start date was in July 2007. The draft report began editorial review in September 2010 and was accepted for publication in May 2011. The commissioning brief was devised by the NCCRM who specified the research question and study design. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors' report and would like to thank the referees for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

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